

JUNE 2012

Innovate Montana is a public/private partnership, led by the Governor's Office of Economic Development working in collaboration with Montana's business community. Through this brand, our goal is to promote and market opportunities for businesses and entrepreneurs to invest in Montana's growing economy.



Making a Difference

AN INTERVIEW WITH
MONTANA STATE UNIVERSITY
PRESIDENT WAHEED CRUZADO

For a relatively small research university, MSU has a national reputation for spin-offs and tech transfer. What do you attribute that to?

Montana State University's success is thanks to long-term strategic thinking and a culture of collaboration and communication with private industry.

MSU has always looked for the maximum return on the taxpayer's investment. One of our greatest success stories is the Center for Biofilm Engineering, seeded in 1990 with a \$7.5 million grant from the National Science Foundation. At the time the center's founder, Bill Characklis, saw that MSU had the faculty expertise to capitalize on the emerging field of biofilms and their applications. Twenty-two years later, the center is considered the world leader in this field and has 32 industrial partners in energy, biomedicine, consumer products, healthcare, and other industries that fund \$500,000 to nearly \$1 million annually in research. Those partnerships are constantly fostered by the center, especially through twice-annual, center-hosted conferences that attract more than 140 private sector researchers.

This strategic alignment of the university's strengths with state, national and industry needs is illustrated across campus. As an example of the success these collaborations foster: MSU is the major supplier of new wheat varieties for Montana growers. In 2011, more than 50 percent of all the winter wheat grown in Montana was developed at MSU or the Montana Agricultural Experiment Station, and more than 40 percent of spring wheat grown in 2011 was of varieties developed at MSU. And, thanks in part to MSU's investments, the Gallatin Valley saw the creation of 32 optics-related companies over the past decades, with 15 of those companies having been started by MSU graduates. Bozeman is now home to twice the number of optics companies per capita as Tucson, Ariz., which is widely regarded as a major center of the optical industry.



Making a Difference

Interview continued

What do you see as MSU's contributions to Montana's state economy?

MSU's most important contribution to the state's economy has always been—and will always be – our graduates: men and women prepared to enter the many pursuits and professions of life and to be informed and engaged members of our democracy. The greatest gold under the Big Sky is our people: they are the skilled employees, the talented managers and the daring entrepreneurs of our state's future.

Since 2006, Montana State University has made sure every undergraduate has a significant research or creative experience before leaving school. These experiences help prepare our students for the constant innovation demanded in our competitive global economy. Additionally, MSU has added significant resources to help students stay in school and earn a degree so that as many of our citizens realize the American dream of higher education as possible. At MSU, we believe in creating the leaders who will write Montana's future.

What are future priorities for MSU?

In the area of economic development, technology transfer, and research, MSU has several new and continuing priorities. This year marks a reinvigoration of our Advanced Technology Park, renamed the MSU Innovation Campus, under new leadership from Teresa McKnight, a seasoned professional with an impressive background managing research parks. The MSU Innovation Campus will provide the environment for MSU faculty to collaborate with private and government researchers to push forward cutting-edge science and technologies; and where students will gain hands-on experience critical for entering the high-tech workforce.

Our Office of Technology Transfer, under the leadership of Becky Mahurin, will continue to shepherd MSU research into the hands of entrepreneurs both in Montana and around the world for entry into commercial markets. Currently, MSU has more than 200 licenses

from technologies developed by faculty and researchers. Of those, 93 licenses are with Montana companies. MSU's Montana Manufacturing Extension Center, led by Steve Holland, will continue its excellent work of fostering economic development by working with companies both in high technology and basic manufacturing. Since its inception in 1996, MMEC has served more than 750 clients in 54 of Montana's 56 counties. We expect MSU's research enterprise to remain a robust \$100+ million per year with significant emphasis in the areas of biomedicine, energy, agriculture, natural resources and environmental sciences.

Thanks to the leadership of Governor Schweitzer, MSU and the University of Montana formed the Montana Institute on Ecosystems, funded by a \$20 million grant from the National Science Foundation, to provide research and public outreach on natural resource issues important to Montana. This is the first joint-university research institute of its kind in the nation and we see it being a valuable contributor to the state's economy.

MSU will continue its energy research, approximately \$15 million annually, which includes fuel cells, wind energy, microorganisms with biofuel-producing capabilities, biofuel from seed crops, and the storage of carbon dioxide deep underground. Again, thanks to the leadership of Governor Schweitzer, MSU is poised to be an international leader in carbon sequestration technology through the Big Sky Carbon Sequestration Partnership, housed at MSU.

What can the next Governor do to ensure advances continue?

Montana's governor is the state's number one public relations person, diplomat and economic cheerleader. Through his or her travels, the governor can connect entrepreneurs and industry leaders with the many opportunities Montana has by being well informed about the state's manufacturing, research, education and high technology infrastructure. A governor armed with concrete stories of our many thriving high tech companies, the amenities the state has to offer to businesses, and the incredible work ethic of our residents can be an important catalyst for spurring investment into the Big Sky.



New law to boost funding for Bozeman biotechs

With clinical trials costing upwards of \$100 million, many biotech entrepreneurs have found themselves trading control of their companies for the investment capital critical to commercialization. That worried Brett Baker, founder of Microbion Biosciences, which created a new class of antibiotics with the goal of developing a full spectrum of applications.

But no more. Baker now believes that the financing regulations included in the Jumpstart Our Business Startups (JOBS) Act "could be a big turnaround" for Microbion and other Bozeman biotechs.

Among the new regulations in the law is Regulation A, which allows private companies to raise up to \$50 million without becoming publicly traded. Other regulations address the solicitation of private money as well as "crowdfunding," which allows groups of small investors to pool funds and invest them in a company.

These changes boost Microbion's options for funding large-scale field studies, the third and most expensive phase of clinical trials. The company is currently ready to start Phase II human clinical trials of its antibiotic, testing it in gel form on orthopedic implants which should cost about \$4 million. Microbion received a \$2.5 million grant from the Department of Defense to help cover its costs.

Kalispell-based Avail-TVN raises \$100 million

Already the largest independent provider of digital video services in North America, Avail-TVN has raised \$100 million to fund international expansion and development of new products and services for its global customers.

First up for the Kalispell company was acquisition of the U.K.-based On Demand Group for \$27 million. That purchase expands Avail-TVN's reach into more than 25 countries and 70 million households, making it a global media powerhouse.

Avail-TVN's largest investor is The Carlyle Group, which is providing equity from U.S. and European growth funds. Principal William Darman calls his firm's investment "a testament to the growth prospects we see in this sector over the coming years."

Avail-TVN works with both content and service providers, offering a portfolio of managed services covering TV Everywhere, video on demand, linear television delivery, Pay-Per-View, advanced advertising and data analytics.

Montana's wealth of public land encourages job growth

A review of nearly 40 years of state economic data by Headwaters Economics reveals a trend that many Montana businesses know firsthand: Montana's wide-open spaces and lifestyle helps businesses thrive.

The Bozeman-based research group found that between 1970 and 2009, rural western counties with more than 30 percent of land under federal protection increased jobs at a rate four times greater than rural counties without federally protected lands.

In addition, between 2000 and 2010, when the state's population grew by 10 percent, it added new jobs and real personal income at more than twice the national rate, and real per-capita income at more than four times the national rate. In that decade, 95 percent of the job growth was in service-related industries.

According to Headwaters Economics policy director Chris Mehl, "More and more, the research is showing that there is an amenity migration. If someone can leave work and be at a trout stream in 10 minutes, that is a big attraction, and public lands really play into the quality of life of a given place."



Salish Kootenai College announces groundbreaking partnership with the Navy

In May of 2011, Salish Kootenai College (SKC), located on the Flathead Reservation in Pablo, Montana, signed a groundbreaking educational partnership agreement with the Naval Undersea Warfare Center (NUWC) of Newport, Rhode Island; a first-of-its-kind signed between NUWC and a tribal college. The deal was brokered largely between Dr. Theresa Baus with NUWC, with Professor Tim Olsen acting as the principal investigator working with the Navy on compliance issues. The primary benefit for SKC students is a unique opportunity to participate in internships at the NUWC, assisting with cutting edge research and development of digital acoustic sensor technology. However, the ripple effects in terms of benefitting SKC's academic curriculum and recruitment potential, as well as Montana's growing high-tech industry sector, are what make this agreement a significant step forward for Montana's innovation economy.

SKC is a four-year accredited college - and the most successful tribal college in the nation. By funding sabbaticals for faculty members who want to participate in cutting-edge research, and assisting with the recruitment of students interested in pursuing careers in advanced technology, the agreement promises to aid SKC President Luana Ross in her goal of steering the college in a research institution direction that fosters high-tech spin-offs. Fortunately for SKC and its students, a major player in technology and professional services, is located right across the street.

S&K Technologies, Inc. is a federally chartered corporation owned by the Confederated Salish and Kootenai Tribes, and has become one of the most successful tribally owned professional and technology services companies

in the nation. S&K Technologies is comprised of six subsidiary businesses that serve multiple markets, from advanced electronics manufacturing to information technology services. One of the corporation's newest affiliates is TerraEchos, a cybersecurity company based in Missoula that has earned a great deal of press lately for innovative technology and other groundbreaking partnerships with the Department of Defense and IBM.

When companies like S&K Technologies and TerraEchos are looking to add employees to their growing workforce they require a very specific, high-level skill set. TerraEchos' CEO, Alex Philp, sees investments in education and partnership agreements like this as the most direct route for creating the workforce they need - and in turn feeding the innovation economy.

"With the kind of problems we're working on, unless we make investments in education, we're stuck. We can't grow."

This summer, NAME?, the first SKC student to participate in the NUWC internships will spend 11 weeks working on technology the S&K tribe now owns and will learn skills that will employ him directly across the street from his college, allowing him to contribute to his community and local economy.

Philp sees the value in the current agreement, but adds that ensuring its success and identifying similar opportunities should be the next goals.

"We need to make this agreement sustainable, meaningful, and set up in a way that can be replicated on other campuses. Building the right partnerships at the right time creates opportunities for our students to get the type of jobs they want directly upon graduation."